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DRIVE RESULTS

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February 2, 2017

Philip E. Lemnios
Town Manager
253 Atlantic Avenue
Hull, MA 02045

Re: Change Order No. 5 – Engineering Services – Fiscal Sustainability Plan, CMOM, wastewater and stormwater

Dear Phil:

The following proposal outlines a plan to provide engineering services for the Town of Hull related to the following:

Task 5.1	**Immediate needs**
Task 5.2	**AOC CMOM, MA DEP 2017 and NPDES permit I/I requirements**
Task 5.3	**Fiscal Sustainability Plan**
	Evaluate wastewater treatment at the MWRA Deer island WWTP
	Evaluate process modifications for efficiency improvements
Task 5.4	**Evaluate resiliency upgrades using CREAT tool**
Task 5.5	**Implement repair and replacement of critical assets**
Task 5.6	**Re-prioritize the Asset Management Accounts**
Task 5.7	**Stormwater system support**
Task 5.8	**Community Involvement**

We already have performed, and we are currently performing, several consulting engineering tasks related to various regulatory compliance issues, and have been very cost effective and efficient in getting these tasks accomplished. We have also done some electrical engineering work related to the detailed ARC FLASH analysis performed as part of the Health & Safety transition. We also have provided engineering services to prepare and deliver the first four CMOM AOC deliverables.

In an effort to provide ***innovative and cost effective*** ongoing support for the Hull's wastewater system, ***we plan to hire a full time mid-level engineer at the wastewater treatment plant as part of the O&M staff.*** We plan to support that person, when needed, with engineering and consulting staff from Woodard & Curran offices, engineering interns, as well as sub-consultants, on an as needed basis.

TASK – 5.1 - IMMEDIATE NEEDS

This task consists of evaluating the following action items to determine if they should proceed as an immediate action item(s) or as part of a later phase of the Fiscal Sustainability Plan. The key action items that we recommend be reviewed as possible are:

- Structural Engineering condition assessment
- Control Building High Influent Flow flood protection
- Emergency plan for PS 3 Forcemain failure
- Replacement plan for diesel fuel UST at the Wastewater Facility

STRUCTURAL ENGINEERING REVIEW

SCOPE: Structural issues, such as control building exterior concrete block failures and corrosion related failures inside several areas of the treatment facility (concrete cracks, exposed and corroded rebar, etc.) need to be inspected by a structural engineer to determine suitability, from a structural integrity standpoint, of critical assets. We will bring a structural engineer on-site to perform up a site evaluation, inspection and assessment to determine if there are **any critical structural problems that would significantly impact the overall condition rating of major structures.** Intent is to identify structural deficiencies within the plant (including the control building envelope) that impact the functionality, upgrade, and operational performance conditions presently, or as part of recommended retrofits. This inspection will result in a report that will identify and highlight if there are obvious areas of concern, as well as areas that need more detailed structural inspections and field testing work. Any future "detailed" structural inspection/testing, and the structural design of any recommended improvements that would be part of each respective upgrade/repair project, are not budgeted as part of this proposal. For example, no process tanks will be entered to make detailed inspections using confined space entry. The same type of structural evaluation will be performed at two pumps stations; with Pump Station 4 first on the list (as it has known issues with building settling) and PS 3. We will plan to use the inspections for these two pump stations as "typical condition" of the other pump stations. No repair cost opinions are included in this scope of work.

DELIVERABLES:

- Summary report for WPCF identifying if any critical structural issues are apparent, with recommended actions to repair, upgrade or renew for continued use.
- Summary report for Pump Stations, based on site visits to Pump Stations 4 and 3, identifying if any critical structural issues are apparent, with recommended actions to repair, upgrade or renew for continued use.
- Summary table of assets that require follow-up and more detailed structural inspection/testing

ANTICIPATED FOLLOW-UP OR ADDITIONAL WORK:

- Future typical structural engineering work associated with upgrades at the WPCF or individual pump stations, including "detailed" structural inspection/testing
- Future inspections of cleaned and empty process tanks following confined space entry procedures, if requested by Owner.
- Repair cost opinions.

CONTROL BUILDING "HIGH INFLUENT FLOW" FLOOD PROTECTION

Determine specific method to restore the flood protection of the Control Building due to "HIGH INFLUENT FLOWS". Prepare plans and specifications and obtain cost estimates to repair and refinish the concrete walls at the influent sewer where it enters the headworks, then procure and install a replacement headworks isolation gate and provide remote operating mechanism for the influent

isolation gate. Goal to restore the building flood protection that was previously in place using a phased approach.

SCOPE:

- Plant Engineer labor
    - Review options and develop a recommended plan for basis of design technical memo and estimated costs. Memo to include recommended type of pipe plug to purchase, by-pass pumping plan, logistics details, and plan with details to cut/patch/repair the influent sewer channel concrete walls to their original condition to be able to re-install a replacement sluice gate, to provide the same function as the gate that was previously installed.
    - engineering work, meetings, obtaining quotes, and general coordination, and accompany the specialty engineers for inspections, site visits, etc.
- Structural Engineering labor
    - perform on-site inspection work at the WPCF then provide detailed design sketch for influent sewer line repairs & gate installation details, as needed
- Electrical Engineering
    - site visit and then provide sketch for electrical system for new influent operator
- SCADA Engineering
    - site visit and then provide sketch for SCADA system control for new influent gate operator

DELIVERABLES:

- Plan/sketch with details of concrete repairs of incoming main sewer into headworks room to provide a smooth vertical wall for the installation of a new influent gate
- Specifications for a new influent gate and installation sketches
- Specifications and installation sketches for a new influent gate automatic operator - include electrical, SCADA and mechanical work

ANTICIPATED FOLLOW-UP OR ADDITIONAL WORK:

- Obtain bids and install gate using appropriate Town funds – scope may vary depending on overall cost estimates
- The work will be accomplished in phases:
    - Temporary headworks bypass and repair the concrete
    - Buy a new sluice gate
    - Install gate with manual operator
    - Install remote control gate operation system

EMERGENCY PLAN FOR PUMP STATION 3 FORCEMAIN FAILURE

SCOPE: Development of a technical memorandum with a recommended plan to be able to operate Pump Station 3 if there is a premature failure of the forcemain. The forcemain is on the capital list to be replaced at some point in the near future. The Emergency Plan will provide more specific details to be added to the current Emergency Operations and Contingency Plan for Pump Station 3.

The memorandum will include the following:

- Development of alternatives and conceptual layouts for diverting flows in the event of a forcemain failure including temporary surface and subsurface diversions, emergency dig and

replacement, trenchless alternatives, routing considerations, minimizing downtime, minimizing surface disruptions to the community, etc..and recommendations with sketches, photographs and procedures to follow, implementation considerations, and estimated costs of the recommended approach.

- Quotes and bypass plans from multiple vendors
- Quotes for bypass pumping/trucking vendors
- Emergency Procurement documents and procedures
- Emergency funding options

DELIVERABLES:

- technical memorandum as described above

ANTICIPATED FOLLOW-UP OR ADDITIONAL WORK:

- modify plan as needed as upgrade work proceeds for the Pump Station 3 assets
- implement the plan if an emergency occurs

REPLACEMENT PLAN FOR DIESEL FUEL UST AT THE WASTEWATER FACILITY

Development a technical memorandum describing alternatives with a recommended plan to remove and replace the existing diesel fuel Underground Storage Tank (UST). The technical memo will evaluate either replacing the UST with a new UST or installing an Above Ground Storage Tank (AST). The AST option will evaluate a new AST, determine the location and elevation, and include evaluating the option to repurpose (or replace) the current above ground thickened sludge storage tank. The elevation is important as it relates to flood elevation levels at the site.

DELIVERABLES:

- technical memorandum as described above

ANTICIPATED FOLLOW-UP OR ADDITIONAL WORK:

- implement the plan described in the memo to replace the UST or install a new AST

TASK 5.2 – AOC CMOM, MA DEP 2017 AND NPDES PERMIT I/I REQUIREMENTS

The status of the CMOM AOC is summarized in the table below. The first four items have been completed and submitted, and the next set of deliverables include addressing the actions items identified in the first four CMOM items.

	Town of Hull, AOC - 2016 CMOM				
Item #	***AOC Item***	***FJC Comments***	***current due date***	***status***	***Project***
IV.1	Unauthorized Discharge Summary	report with multiple items a to p	July 31, 2016	**Completed**	CMOM CO # 1
IV.2	Emergency Response Plan	report with multiple items a to l	August 31, 2016	**Completed**	CMOM CO # 1
IV.3	I/I Control Plan	report with multiple items a to e	August 31, 2016	**Completed**	CMOM CO # 1
IV.4	CMOM Program Assessment	checklist	October 31, 2016	**Completed**	CMOM CO # 1
IV.7	CMOM Program Implementation Annual Report	Annual report with multiple items a to d	March 31, 2017		CMOM CO #2
IV.6	CMOM Program Manual	Manual with multiple items a to e	June 30, 2017		CMOM CO #2
IV.5	CMOM Corrective Action Plan	Facilites Plan	July 31, 2017		CMOM CO #2
IV.5.d.	WWTF rehabilitation schedule	Facilites Plan	July 31, 2017		CMOM CO #2
IV.7	CMOM Program Implementation Annual Report	Annual report with multiple items a to d	March 31, 2018		TBD
IV.7	CMOM Program Implementation Annual Report	Annual report with multiple items a to d	March 31, 2019		TBD
IV.8	Third Year CMOM Program Self-Assessment Checklist		July 31, 2019		TBD
IV.9	**Sound engineering practices, including improving resilence to climate change**	**all work**			

The next three CMOM items are:

March 31, 2017 – 7. CMOM Program Implementation Annual Report
June 30, 2017 – 6. CMOM Program Manual
July 31, 2017 – 5. CMOM Corrective Action Plan (CAP)

The CMOM Corrective Action Plan not only covers the collection system, but requires a plan to address repairs to the treatment facility as well.

- March 2017 CMOM Annual Report – item IV.7
  - Develop CMOM Annual Report in accordance with the AOC.
- CMOM Program Manual - item IV.6
  - Develop the CMOM Program Manual in accordance with the AOC
  - Coordinate the CAP with the Fiscal Sustainability Plan, CREAT assessment and the W&C O&M contract, solicit input from Town staff, the Hull PSC, and specialty consultants, as appropriate
  - Coordinate, develop and update GIS mapping tool
  - Develop the required hydraulic model for the collection system-current thought is to model the interceptor and then factor in the Pump Station and Plant Flow data.
  - Identify and recommend necessary Pump Station and force main repairs, upgrades and replacements
  - Develop and oversee preventative, corrective and SESS work

- Implement ongoing H_2S monitoring and control program

- 5. CMOM Corrective Action Plan (CAP) – item IV. 5

  - Develop a corrective action plan in accordance with the AOC based on the Task 4 Program Assessment for the treatment facility and collection system including soliciting input from Town staff, the Hull PSC, and specialty consultants, as appropriate

Related to the CMOM are the Mass DEP 2017 I/I and the NPDES permit I/I requirements, as outlined in APPENDIX A-2. The CMOM and the MA DEP & NPDES permit I/I requirements overlap, and the CMOM CAP and Program Manual will address the MA DEP & NPDES permit I/I requirements.

Future reporting includes the 2019 Third-year CMOM Program Self-Assessment Checklist, submittal is due July 31st, 2019, and future Annual CMOM reports (due March 31 each year). Any additional scope of work to provide these submittals will be reviewed under a future change order request (if needed), once the systems noted above are in place.

Deliverables for all AOC items noted above will comply with the AOC and applicable requirements and schedules indicated above, or as otherwise amended.

TASK 5.3 - FISCAL SUSTAINABILITY PLAN

- ***Evaluate feasibility of wastewater treatment at the MWRA Deer Island WWTP***

  We propose to utilize Mark Laquidara to lead the effort to perform a high-level review of the option to abandon the Hull WPCF and change it into a headworks and pumping station only. Mark is a sub-consultant to Woodard & Curran and his resume is provided in Appendix C. Provide up to three meetings with MWRA to understand the possibility, feasibility, and implementation considerations with this concept. Assuming concept is viable, evaluate at a conceptual level and develop concepts and recommendations pertaining to: conversion of treatment plant to pumping station; force main sizing routing to either Nut Island or Deer Island; construction methods and logistics; risks and mitigation measures; hydraulic considerations; cost considerations including buy-in costs, operation and maintenance costs, other related costs, and likely rate impact on Hull users; implementation, permitting, and scheduling considerations; and mothballing treatment facility. Included will be other factors or considerations that Hull should consider including responsibilities for the remaining collection and pumping system. Deliverable will be a technical memorandum summarizing the considerations listed above.

- ***Evaluate process modifications for efficiency improvements***

  We propose to utilize Mark Laquidara to lead the effort to perform a high-level review of the processes within the WPCF to determine if there are more cost effective process modifications that should be implemented, versus just replacing the existing unit processes in kind. The Plant Engineer will participate in unit process evaluations related to ongoing O&M optimization efforts; including life cycle analyses to allow vetting new process alternatives for use in the Fiscal Sustainability Plan process reviews. Deliverable will be a technical memorandum summarizing the considerations listed above.

- ***Fiscal Sustainability Plan***

A. Utilizing the data from the first two bullet items above and utilizing the existing asset inventory spreadsheets and field notes, underground piping and other underground assets, current safety audit "capital" items, current asset condition and process performance data, many existing facility reports, and resiliency adaptation plans, we will develop a master plan/spreadsheet for the POTW. Key items for this spreadsheet will be criticality, consequence of failure, condition, performance, maintenance plan, repair plan, replacement plan, and funding plan.

1 Asset Inventory

2 Condition Assessment (Asset Evaluation)

3 Identification and priority of Criticality Assets

4 Development of Priority List of Assets

5 Development of Secondary List of Assets

6 Cost & Funding Plan

7 Report, AM software development & GIS mapping

As part of item 6 above, we will review if other funding and other rate models should be considered from what is currently used. Financial models will address capital expenditures, projected expenses, revenues, debt service, and rate impacts for the 20-year planning period. The Cost & Funding Plan will comply with DEP's SRF cost effectiveness and affordability criteria.

As part of item 7, we will assess the benefit of additional asset management and/or GIS software as a means to streamline access, track work orders, maintain system records, and provide management reports for short term/long term planning and capital budgeting, as well as annual reporting. We currently have several software tools in place; DoForms, SEMS CMMS, HachWIMS and GIS mapping. We will provide recommendations of any additional asset management software tools appropriate for Hull's needs. Alan Fabiano, W&C O&M Technology Manager, will lead this effort and provide a technical memorandum of the evaluation and recommendations.

We will review, evaluate, and recommend implementation considerations for energy and water conservation efforts related to recommendations included in the Fiscal Sustainability Plan, including funding availability from various state agencies.

The Fiscal Sustainability Plan will follow the guidance and requirements as outlined in the Town of Hull Sewer System Asset Management Plan grant as approved by the DEP (Appendix B-2). Deliverables will be to complete the specific items outlined in the Asset Management Grant, outlined as steps 1-7 above, and will be completed by May 30, 2017 and submitted to the DEP to comply with grant requirements. A follow-up task will be to complete a PEF to be submitted in August of 2017 for SRF funding. The actual completion of the PEF may require additional tasks and support from W&C engineering/planning staff.

TASK 5.4 – EVALAUTE RESILIENCY UPGRADES USING THE EPA CREAT TOOL

Work with the EPA to complete the final day of technical assistance and complete/update the initial evaluation of the four adaptation options outlined in the existing draft CREAT report. Then use the CREAT tool to evaluate other adaption options for the wastewater treatment facility, pump stations, and the collection system to improve the resiliency of the ongoing plant O&M. The resiliency upgrades and adaptation plans that result will be incorporated into the Fiscal Sustainability Plan. The Plant Engineer will be supported by W&C engineering staff who have used the CREAT tool for other wastewater facilities in New England. The deliverables for this task will be one or more CREAT reports.

One key item for analysis by the CREAT tool will be to evaluate whether the main electrical system (transformer, main buses, and MCCs) should be moved above the flood zone [to the second floor] or if there are alternative resiliency options available.

TASK 5.5 - IMPLEMENT REPAIR AND REPLACEMENT OF CRITICAL ASSETS

While the FSP is being developed, we still need to implement ongoing capital improvements addressing current equipment conditions and critical needs. We will work with the Director of Wastewater Operations and the Sewer Department administrative staff to develop and implement the most cost effective and efficient repairs, replacements and upgrades. We will coordinate on an ongoing basis to prioritize and implement needed and recommended capital improvements for the ongoing plant repairs and upgrades, as well as provide the information for development of the Fiscal Sustainability Plan.

A. We will review the most critical assets to determine if it would be appropriate to perform a Reliability Centered Maintenance RCM analysis. The critical plant assets are the electrical system, the influent and effluent pumps, and the Control Building flood protection gates/system. If an RCM is warranted, additional scope of work and budget will be provided.

B. We will review the current HVAC system status, and the planned HVAC repair/upgrade plan by others, to determine the recommended next steps and timing for returning the entire HVAC system, or portions of the system, to operational condition.

C. Review the current status of the HFMP and the on-site GODWIN Pump. The HFMP is a living document that requires regular updating, and use of the onsite GODWIN pump, as well as other backup pumping options, is covered by the plan. We will evaluate and provide a technical memorandum summarizing alternatives on the plan for the existing GODWIN pump as far as a permanent installation or whether other systems would be more appropriate to better suit the needs. Included will be estimated costs, implementation considerations, resiliency considerations and flexibility to provide plant redundancy.

D. Develop a plan for repurposing the underground septage storage tanks as thickened sludge storage tanks.

TASK 5.6 – RE-PRIORITIZE ASSET MANAGEMENT ACCOUNTS

Provide the details and reports needed to prioritize and efficiently utilize the O&M contract budgeted Asset Management Account funds, as well as other capital expenditures. This will be a summary of project to date actual expenditures and future recommendations, and will be updated quarterly by plant staff.

- Develop the cost benefit analysis to utilize the Asset Management account to lease/purchase a vactor/jetter/CCTV vehicle for use by plant staff for collection system for more efficient CMOM implementation; thereby reduce the need for outside vendor response for problem areas. Evaluate adding an additional staff person to operate the vactor vehicle. This will be performed by the Area Manager.

- Develop the cost benefit analysis to utilize the Asset Management account to lease/purchase a trailer pumper/washer setup for use by plant staff for collection system grinder pump calls; thereby reduce the need for outside vendor response for problem areas. This will be performed by the Area Manager.

- Actual adjustments to the Asset Management accounts and the collection system quotas as outlined in the contract will be determined over the next several months as the CMOM assessment and plan are developed. Specific cost modifications to the current Asset management budget of $408,850 will be identified for the Town's budget cycle.

- Provide technical memoranda, recommendations, life-cycle costs and benefits for using the following:

    - Wet well and scum pit aerators – mixing and aeration with the goal of reducing FOG & debris related issues, ***reducing sulfide*** and corrosion and reducing the need to clean and vactor out wet wells and pits.

    - In-Pipe technologies – evaluate and provide a report on the trial of in-pipe bacteria addition – goal to change the biology with the entire collection system – ***with the main goal to reduce sulfides***, reduce FOG, reduce corrosion, and reduce the organic loading to the treatment plant.

TASK 5.7 – STORMWATER SYSTEM SUPPORT

Provide stromwater system engineering services as may be requested by the Town. Perform an initial condition assessment of the stormwater system at the wastewater facility; including manhole, pipe and other related stormwater asset inspections. Deliverable will be a marked up drawing of the plant stormwater system, noting condition assessments and any follow-up recommendations. The drawing will also include the GPS coordinates of the storm drain manholes.

TASK 5.8 - COMMUNITY INVOLVEMENT

We anticipate at least two meetings to brief the community on the plan and start getting buy-in early in the process so that when we go to town meeting for funding we have laid the groundwork for support.

DELIVERABLES

1.	Structural Engineering Report	30 days after approval
2.	CMOM Annual Report	March 31, 2017
3.	CREAT tool report	60 days after approval
4.	CMOM Program Manual	June 30, 2017
5.	CMOM Corrective Action Plan	July 31, 2017
6.	Fiscal Sustainability Plan	5 months after approval, AM grant: May 31, 2017
7.	MA DEP I/I Report	December 2017
8.	Asset Management Account	Quarterly updates

9. WPCF stormwater system June 30, 2017

The estimated cost for a plant engineer and related support to oversee and provide the tasks as outlined above would be as follows:

- For 2080 hours @ $80/hr to $100/hr – annual cost will be $ 166,400 to $200,800 per year. The actual rate will be based on the actual pay rate for the plant engineer. We plan to allow the Director of Wastewater Operations to be part of the interview process.
- The billing for the Plant Engineer will be billed T&M by the hour worked, based on a multiplier of 2.15 times direct labor rate. There will also be an annual cost associated with computer, cell phone, safety gear, travel, training, etc. of about $8,500.
- Initially the position will be filled by utilizing various staff on the W&C Engineering/operations team, until the position is filled full time.
- It is anticipating an additional $50,000 to $100,000 in specialty engineering, intern and administrative support for completion of special projects and major capital repairs. This will be based on using the attached engineering rate table and per individual work authorization for specific projects.
- A summary of the estimated costs follows this letter proposal, along with the rate table for Woodard & Curran engineering staff. The cost for Mark Laquidara is $175/hr plus 10% fee and travel expenses; Mark lives in Framingham, so expenses will be minimal.

We would anticipate to implement this innovative plan for a one-year period, and review the progress quarterly to ensure that the services provided are meeting the needs of the Town. We will work closely with the Director of Wastewater Operations and provide engineering and support services where needed and as requested to meet the goals outlined in this letter proposal. Based on the information outlined above, the not-to-exceed value for this proposal will be $309,300.

Please review the proposed change order and sign below to authorize.

Sincerely Yours,

Frank J. Cavaleri
Senior Principal

Approved by: _____

Date: _____

Title: _____

Approved by: _____

Date: _____

Title: _____

Approved by: _____

Date: _____

Title: _____

Cc: Phil Lemnios, Town Manager, Hull
John Struzziery, Director of Wastewater Operations, Hull
Aram Varjabedian, W&C
Paul Roux, W&C

Task	Task	Budget	Full Time Plant Engineer	Consulting & interns team support	Engineering Support	Support hrs	Plant Engineer hrs
Task 5.1	WWTP Structural assessment	$ 11,379	$ 2,614	$ 8,765	W&C Structural engineer	40	32
Task 5.1	Control Building flood protection	$ 6,448	$ 3,268	$ 3,180	Plant Engineer, support from FJC and Engineering diciplines as needed	24	40
Task 5.1	emergency force main replacement procurement for PS 3	$ 6,615	$ 3,268	$ 3,347	Plant Engineer, support from FJC and Engineering diciplines as needed	25	40
Task 5.1	Develop a plan for UST replacement	$ 6,928	$ 3,268	$ 3,660	Plant Engineer, support from FJC and Engineering diciplines as needed	28	40
Task 5.3	MWRA Connection System Eval	$ 16,448	$ 2,288	$ 14,160	Mark Laquidara - with support from fjc and full time Plant Engineer	72	28
Task 5.3	WWTF Evaluation - PROCESS review - then move forward	$ 32,228	$ 19,608	$ 12,620	Mark Laquidara - with support from fjc and estimating team	64	240
Task 5.3	Fiscal Sustainability Plan	$ 28,630	$ 15,850	$ 12,780	Plant Engineer with support from W&C Financial model TEAM	104	194
Task 5.4	Task 5 Coastal Resiliency / CREAT	$ 13,382	$ 5,882	$ 7,500	Plant Engineer supported by W&C Resiliency team	60	72
Task 5.5	Develop a plan for the sludge storage tanks	$ 4,181	$ 1,961	$ 2,220	Plant Engineer, support from FJC and Engineering diciplines as needed	16	24
Task 5.5	Implement repair and replacement of critical assets	$ 37,602	$ 29,902	$ 7,700	Plant Engineer with support from FJC & Engineering diciplines as needed	60	366
Task 5.6	re-prioritize asset management accounts	$ 5,188	$ 3,268	$ 1,920	Area Manager with Plant Engineer and support as needed	16	40
Task 5.2	CMOM Program Implementation Annual Report	$ 5,968	$ 3,268	$ 2,700	Annual report with multiple items a to d	16	40
Task 5.2	Collection System and I/I CMOM program implementation	$ 20,504	$ 9,804	$ 10,700	Plant Engineer with support from FJC & Engineering diciplines as needed	80	120
Task 5.3	Collection System Evaluation	$ 14,985	$ 4,085	$ 10,900	FJC, Plant Engineer and support from Engineering diciplines as needed	80	50
Task 5.3	Pumping Station / Forcemain Evaluation	$ 25,873	$ 16,013	$ 9,860	Plant Engineer, support from FJC and Engineering diciplines as needed	72	196
Task 5.2	CMOM Program Manual	$ 10,436	$ 6,536	$ 3,900	Manual with multiple items a to e	24	80
Task 5.2	CMOM Corrective Action Plan	$ 19,704	$ 9,804	$ 9,900	Plant Engineer with support from FJC & Engineering diciplines as needed	80	120
Task 5.2	WWTF rehabilitation schedule	$ 35,304	$ 9,804	$ 25,500	Plant Engineer with support from FJC & Engineering diciplines as needed	200	120
Task 5.7	Stormwater system support	$ 4,228	$ 3,268	$ 960	Area Manager with Plant Engineer and support as needed	8	40
Task 5.8	Community Involvement	$ 6,148	$ 3,268	$ 2,880	Area Manager with Plant Engineer and support as needed	24	40
		$ 300,800	**$ 154,413**	**$ 146,387**			
	Full Time Plant Engineer - related expenses	**$ 8,500**	**$ 8,500**				
		$ 309,300	**$ 162,913**	**$ 146,387**			**1,890**

APPENDIX A-1

CMOM AOC items 5, 6 and 7

5. By ***July 31, 2017(was February 28),*** the Town shall submit a CMOM Corrective Action plan (the "CMOM CAP") for review and comment to EPA and MADEP. The Town shall immediately and continuously implement the CMOM CAP. The Town shall incorporate any comments provided by EPA or MADEP into its CMOM CAP. The CMOM CAP shall, at a minimum, include the following:

   a. a list of any action items identified by the CMOM Program Self-Assessment;

   b. a list of causes and contributing factors that lead to the unauthorized discharges identified in the Collection System Unauthorized Discharge Summary, described in IV. 1, above;

   c. a description of the specific short and long-term actions that the Town is taking, or plans to take, to address any of the deficiencies identified in IV. 5. a or b;

   d. a schedule for the completion of actions required to bring back on-line back-up equipment at the WWTF that currently is not operational; and

   e. a schedule for implementation of the CMOM CAP (the "CMOM CAP Implementation Schedule").

6. By June 30, 2017, the Town shall submit a CMOM Program Manual to EPA and MADEP for review and comment. The CMOM Program Manual shall contain all information used by the Town to properly operate and maintain the Collection System and minimize the frequency, duration, and volume of unauthorized discharges. The CMOM Program document shall be maintained at a location that is readily accessible to the Town's maintenance staff and shall be updated periodically

thereafter in an iterative manner. The subject areas shall include, but are not limited to, the following topics:

a. Collection System Management
    i. Organizational Structure
    ii. Training
    iii. Internal Communication
    iv. Customer Service
    v. Management Information Systems
    vi. Unauthorized Discharge Notification Systems
    vii. Legal Authority;

b. Collection System Operation
    i. Budgeting
    ii. Monitoring
    iii. Hydrogen Sulfide Monitoring and Control
    iv. Safety
    v. Emergency Preparedness and Response
    vi. Modeling
    vii. Mapping
    viii. New Construction
    ix. Pump Stations;

c. Equipment and Collection System Maintenance
    i. Maintenance Budgeting
    ii. Planned and Unplanned Maintenance
    iii. Sewer Cleaning
    iv. Parts and Equipment Inventory;

d. Sewer System Capacity Evaluation — Testing and Inspection
    i. Flow Monitoring
    ii. Sewer System
    Testing Sewer
    System Inspection;

e. Sewer System Rehabilitation.

7. Until further notice, beginning March 31, 2017, and each March 31st annually thereafter, the Town shall submit a CMOM Program Implementation Annual Report (the "CMOM Annual Report") to EPA and MADEP, detailing the actions taken by the Town during the prior calendar year, or known by the Town to have been taken by other parties, to resolve the deficiencies identified in the CMOM Corrective Action Plan and to comply with this Order. The CMOM Program Implementation Annual Report shall also include:

   a. a summary listing of all unauthorized discharges that have occurred during the last calendar year, including all of the information outlined in item IV.1 of this Order;

   b. a map or maps of the Town's Collection System showing the location of each unauthorized discharge included in the summary listing;

   c. a detailed description of the actions taken during the previous calendar year to address any action items included in the CMOM Corrective Action Plan, including updates to the CMOM Program Manual, required in IV.6, above; and

   d. a description of the actions that will be taken during the current calendar year to address any action items included in the CMOM Corrective Action Plan.

APPENDIX A-2

MA DEP 2017 and NPDES Permit Infiltration/inflow requirements

NPDES Permit Infiltration/inflow requirements

The plans shall be submitted to EPA and MassDEP **within six months of the effective date of this permit** (see page 1 of this permit for the effective date) and shall describe the permittee's and co-permittees' programs for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

By **March 31 of each year** the permittee and co-permittees shall each submit a summary report of all actions taken to minimize I/I during the previous calendar year. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I and the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Part 1, Section D.1 Unauthorized Discharges of this permit.

APPENDIX B

Fiscal Sustainability Plan

- Inventory ***critical*** assets.
- Evaluate the condition and performance of those assets.
- Prepare a plan for maintaining, repairing and replacing the treatment works.
- Prepare a plan for funding such activities.
- Certify that water and energy conservation efforts have been evaluated and will be implemented as part of the plan.

APPENDIX C

Mark Laquidara resume